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(54) IMPROVEMENTS IN OR RELATING TO VEHICLE MIRRORS

(71) We, SURREY STEEL COMPONENTS LIMITED, a British Company, of Trinity Road, Richmond, Surrey and JACK SAMUEL CONN, a British Subject, of 33, Hillbrow, Richmond, Surrey, do hereby declare the invention, for which we pray that a patent may be granted to us, and the manner in which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to rear view mirror assemblies for motor vehicles.

According to the present invention there is provided a rear view mirror assembly for a motor vehicle comprising a body having an open mouth, a holder for a mirror having means for releasable attaching the holder to the body at the periphery of the mouth, and a mirror loosely mounted in the holder, the arrangement being such that the holder is attached to the body under stress and such that substantially all the stress acts on the holder.

The holder may include a base portion dimensioned such that in use it closes the mouth of the body. The holder may further include a peripheral upstanding flange extending around the periphery of the base portion and having means for retaining the periphery of the mirror. The means for retaining the periphery of the mirror may comprise an inward facing channel formed in and extending around the flange.

The means for releasably attaching the holder to the base may comprise a further channel extending around the flange and a further flange formed around the periphery of the mouth, the further channel being dimensioned to releasably retain the further flange.

The further channel may face toward the mouth of the body, in which case the further flange extends out of the mouth of the body.

The mirror may include an electric demisting device, in which case the body may include a power supply mounted in the body. In either of these latter cases the holder and the body may have cooperating electrical contacts mounted thereon for supplying power to the electrical demisting device.

A specific embodiment of the invention will now be described with reference to the accompanying drawings, in which:—

Figure 1 is a partially cut away perspective front view of a mirror assembly;

Figure 2 is a sectional view of the mirror assembly of Figure 1 along the line A-A with a mounting assembly added; and

Figure 3 is a partial sectional side view of the mirror assembly of Figure 1 with the mounting assembly added.

Figures 1 to 3 show a mirror assembly 1, which essentially comprises an open mouthed body 2, a mirror holder 3 and a mirror 4. The mirror holder 3 is made of resilient material and comprises a base portion 5, which closes the mouth 6 of the body 2, and an upstanding peripheral flange 7, which defines an inward facing channel 8 and a channel 9 which faces the mouth of the body 2. Channel 8 loosely retains the periphery of the mirror 4, whilst channel 9 releasably engages an outward extending flange 10 which is formed around the outer periphery of the mouth 6, to retain the holder 3 on the body 2.

The body 2 comprises a central raised spherical portion indicated at 11, an inclined portion 12, a peripheral annular portion 13 and tubular extension 14. Strengthening ribs 15 (shown in broken lines in Figure 1) extend from the spherical portion 11 to the join between inclined portion 12 and annular portion 13.

During assembly the holder 3 is heat-shrunk to loosely retain the mirror 4, and then mounted on the body 2 by means of channel 9 and flange 10, such that a circular flange 16, which projects from the underside of base portion 5, away from the mirror 4, located and engages the tubular extension 14, to impart rigidity to the assembly 1. The relative dimensions of the base 2 and holder 3 are such that the holder 3 is mounted under stress in order to ensure that the

assembly 1 as a whole forms a rigid structure. As the mirror 4 is only loosely retained in the channel 8, this stress is not transmitted to the mirror 4 and is all borne by the base portion 5. This means that the mirror 4 is not subject to deformation due to overloading.

In the event of the mirror 4 being broken, the holder 3 can be removed and a new holder and mirror assembly mounted in its place.

The rigidity imparted to the mirror assembly 1 by the base 5, flange 16 and extension 14 allows the body 2 to be constructed of relatively thin material.

The mirror 4 may incorporate an electric demisting device (not shown), in which case a power supply (not shown) may be located in the body 2. Preferably cooperating electrical contacts (not shown) are formed in the body 2 and holder 3, the contacts (not shown) being shaped and located such that whenever a holder 3 is mounted on a body 2 the contacts (not shown) engage, connecting the power supply (not shown) to the demisting device (not shown).

Figures 2 and 3 show a mounting assembly 17. The mounting assembly 17 includes a block 18 having a spherical recess 19, which receives a bearing liner 19*a*, which is dimensioned to engage the outer surface of spherical portion 11, and a cooperating block 20 which is attached to the block 18 by screws 21 and which together with block 18 defines a hole for receiving a mounting rod (not shown), which can be fixingly engaged by the blocks 18 and 20 by adjustment of screws 21.

The body 2 is attached to block 18, by means of a semi-spherical cup 23, which engages the inner surface of the central portion 11 and by a bolt 24, which extends through aligned holes in the block 18, central portion 11 and semi-spherical cup 23, engaging block 18 with its head 25 and which stresses the semi-spherical cup 23 and block 18 towards each other, entrapping the central portion 11, by means of compression spring 26, which acts between the semi-spherical cup 23 and an abutment collar 27, which is mounted on the bolt 24.

The mirror assembly 1 can be used with many different mounting assemblies and the shape of the central portion may be varied accordingly. Equally the mounting assembly may be connected to the mirror assembly by means other than the central portion, in which case the shape of the body 2 may be varied accordingly.

WHAT WE CLAIM IS:—

1. A rear view mirror assembly for a motor vehicle comprising a body having an open mouth, a holder for a mirror having means for releasably attaching the holder to the body at the periphery of the mouth, and a mirror loosely mounted in the holder, the arrangement being such that the holder is attached to the body under stress.

2. A rear view mirror assembly as claimed in claim 1 wherein the holder includes a base portion dimensioned such that, in use, it closes the mouth of the body.

3. A rear view mirror assembly as claimed in claim 2 wherein the holder further includes an upstanding flange extending around the periphery of the base portion and having means for retaining the periphery of the mirror.

4. A rear view mirror assembly as claimed in claim 3 wherein the means for retaining the periphery of the mirror comprises an inward facing channel formed in and extending around the flange.

5. A rear view mirror assembly as claimed in any one of the preceding claims wherein the means for releasably attaching the holder to the base comprises a further channel extending around the flange and a further flange formed around the periphery of the mouth, the further channel being dimensioned to releasably retain the further flange.

6. A rear view mirror as claimed in claim 5 wherein the further channel faces towards the mouth of the body and the further flange extends out of the mouth of the body.

7. A rear view mirror as claimed in any one of the preceding claims wherein the mirror includes an electric demisting device.

8. A rear view mirror as claimed in claim 7 further comprising a power supply mounted in the body.

9. A rear view mirror as claimed in claim 7 or claim 8 wherein the holder and the body have cooperating electrical contacts mounted thereon for supplying power to the electrical demisting device.

10. A rear view mirror substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

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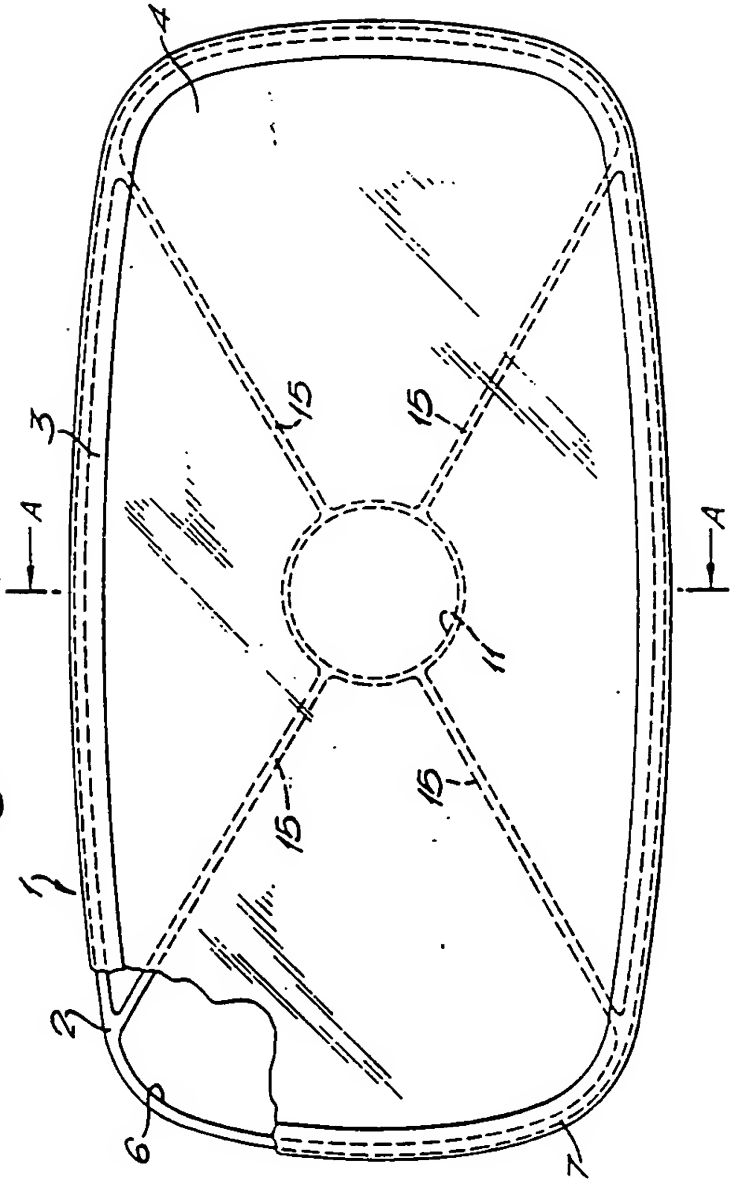

Fig. 1.

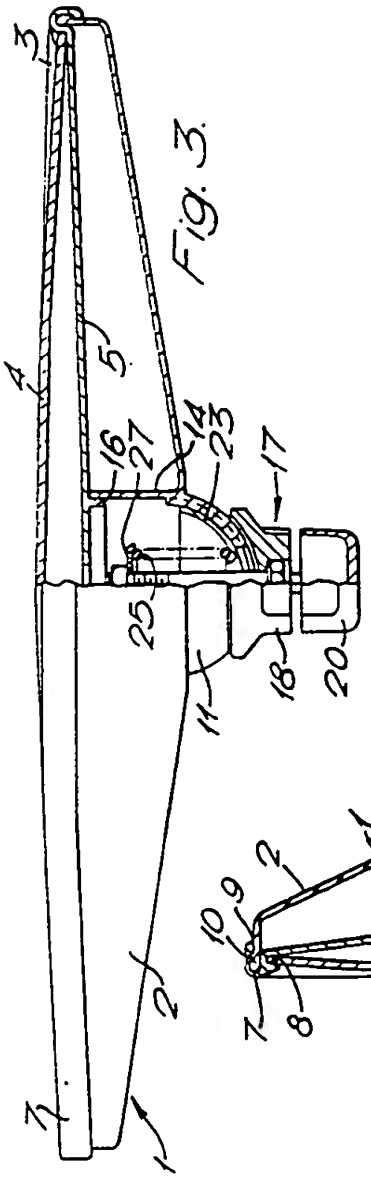

Fig. 3.

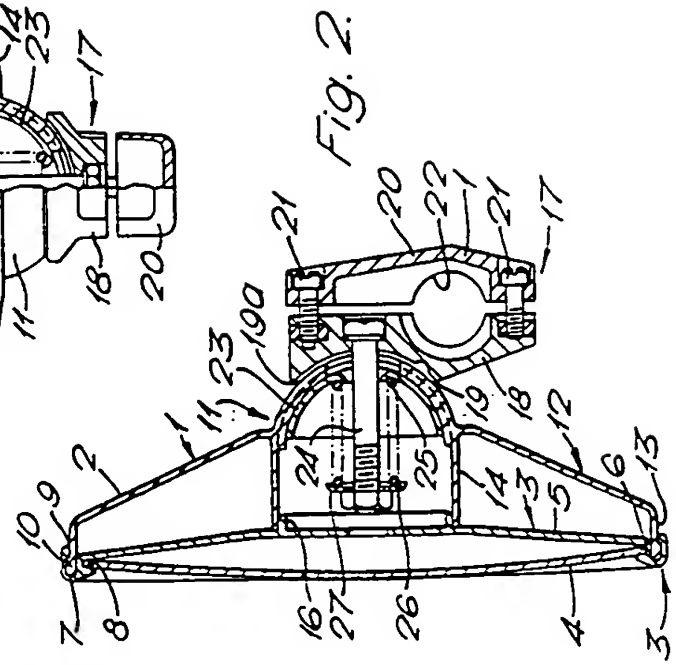

Fig. 2.